

This book is essentially a practical book, and those who go to it for treatment of the theory of spectra will find it disappointing. The author has limited his discussion of theory to very concise statements on fundamental points. Particularly is this so with respect to his treatment of infra-red and Raman spectra. Whilst there is no doubt that these spectra constitute a field of their own, it is to be regretted that, since the author has elected to include them, he did not extend this chapter so as to give more detailed information on the specialized technique required for their study, concluding with a short account of the scope and utility of each when used separately and when the data from both are correlated. A detailed discussion would not have been necessary, and yet the undoubted success of these methods in the elucidation of molecular structure constitutes an important branch of chemical spectroscopy. But perhaps, on the whole, it might have been preferable to have omitted their discussion altogether.

Chapter xii, which deals with laboratory experiments, merits special attention. The exercises

commence with the calibration of a spectrograph and then go on to the qualitative and quantitative determination of elements, the measurement of visible and ultra-violet absorption spectra, and the use of the photonic cell. The exercises, perfectly straightforward in themselves, are described in a most complete, careful, and attractive way, and will prove extremely useful as a basis for an elementary experimental course in chemical spectroscopy. The only criticism which may be made is that these exercises can, however, only be carried out when there is available in the laboratory a considerable quantity and range of spectroscopic apparatus.

No book of this size and importance can be expected to be entirely free of errors or devoid of sections or features to which some measure of adverse criticism can be applied. This book is no exception. But the feeling left in the mind of the reviewer after perusing it is that the book, although rather expensive, is a welcome and timely addition to the literature of the subject and can be thoroughly recommended.

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HUMAN EMBRYOLOGY

The Essentials of Human Embryology

By Prof. Gideon S. Dodds. Second edition. Pp. ix+316. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1938.) 20s. net.

AS was to be expected in a work on human rather than comparative embryology, the second edition of Prof. Dodds's text-book, which is intended mainly for medical students, does not differ greatly from the first, published nine years earlier. Many of the chapters are little if at all altered, but there are certain sections in which changes have been introduced as a result of recent researches. These relate more particularly to the early stages of development, the testis and ovary, the placenta, the ages of embryos, the formation of bone, the pharynx and its derivatives, the blood vessels, and the growth of nerve fibres. Moreover, the chapter on ovulation, menstruation, and pregnancy has been almost entirely rewritten.

In the fourth chapter there is an interesting account of the four very young ova known as the Miller, Bryce-Teacher, Peters and Spee ova. The section on the determination of the age of embryos includes useful tables illustrating the growth, and one of these, which is supplied by Dr. Streeter and hitherto unpublished, includes ages below

eight weeks, the figures being based upon young human embryos compared with accurately timed monkey embryos. It is to be noted that in the chapter on the nervous system there is included a brief account of Speidel's recent research on the growth of nerve fibres in the web of the tail of the tadpole.

The chapter on ovulation and the related processes deals with certain matters which are not beyond dispute, and the statements made are not always quite accurate. Thus, in the formation of the corpus luteum, the follicular cavity is partly filled in by the ingrowth of connective tissue and vessels from the wall and not simply by the hypertrophy of the epithelial cells, as here described. Further, the hæmorrhage which takes place before œstrus in the bitch cannot correspond to the inter-menstrual bleeding of women occurring at about the time of ovulation, since the latter process in the dog does not supervene until œstrus, and it is well known, as pointed out by Heape, that the bitch will not usually receive the male until external bleeding is quite or nearly over.

Such defects as those indicated, however, must not be held to detract from the general usefulness of the book.

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